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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,133	11/25/2003	Eric A. Jacobsen	P18306	9445

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EXAMINER	
TORRES, JOSEPH D	
ART UNIT	PAPER NUMBER
2112	
MAIL DATE	DELIVERY MODE
02/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,133	JACOBSEN ET AL.	
	Examiner	Art Unit	
	Joseph D. Torres	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2005*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-41* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-9, drawn to **identifying a length of information to be sent in a block code**; and **encoding the informati**on to be sent in the block code into one or more codewords in a manner to achieve a similar codeword error probability for each codeword **considering available decoding time for decoding a last codeword will be less than available decoding time for decoding a first codeword**, classified in class 714, subclass 779.

II. Claims 10-14, drawn to **decoding the one or more codewords** by performing a number of decoding iterations on each codeword, wherein the number of decoding iterations performed on each codeword is proportional to an amount of information within the codeword, classified in class 714, subclass 795.

III. Claims 15-21, drawn to **a memory portion to store information; and a processing portion coupled to the memory portion** and configured to , classified in class encode the information to be sent into one or more codewords in the message block **based on the identified length to achieve a comparable probability of codeword error for all codewords in the message block** given that at least one codeword in

the message block will be decoded with fewer iterations than other codewords in the message block, class 714, subclass 780.

IV. Claims 22-24, drawn to **a memory portion to store information**; and **a processing portion coupled to the memory portion** and configured to decode codewords in a received block code, wherein **a number of decoding iterations used for decoding is substantially proportional to a code rate for each codeword**, classified in class 714, subclass 769.

V. Claims 25-31, drawn to a transceiver operative to send and receive block encoded messages; and **a block encoder coupled to the transceiver** and **configured to encode information to be sent in a block code into one or more codewords having a code rate adjusted to achieve a comparable codeword error probability** for each codeword in the block code considering available decoding time for decoding a last codeword is less than available decoding time for decoding a first codeword, classified in class 714, subclass 774.

VI. Claims 32-37, drawn to **encoding means for encoding information to be sent into a block code into one or more codewords and a modulation means for modulating the block code into a multi-carrier signal**, classified in class 714, subclass 776.

VII. Claims 38-41, drawn to encoding the information into one or more codewords to be sent in the block code wherein **at least a number of codewords or an amount of information encoded within a codeword**

is selected to achieve a minimum threshold code rate for each codeword, classified in class 714, subclass 708.

The inventions are distinct, each from the other because of the following reasons:

Inventions Groups I through VII are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination Group I has separate utility such as for **identifying a length of information to be sent in a block code**; and **encoding the informati**on to be sent in the block code into one or more codewords in a manner to achieve a similar codeword error probability for each codeword **considering available decoding time for decoding a last codeword will be less than available decoding time for decoding a first codeword**. In the instant case, subcombination Group iI has separate utility such as for **decoding the one or more codewords** by performing a number of decoding iterations on each codeword, wherein the number of decoding iterations performed on each codeword is proportional to an amount of information within the codeword. In the instant case, subcombination Group III has separate utility such as for **a memory portion to store information; and a processing portion coupled to the memory portion** and configured to , classified in class encode the information to be sent into one or more codewords in the message block **based on the identified length to achieve a comparable probability of codeword error for all codewords in the message block** given that at least one codeword in the message block will be decoded with fewer iterations than other

codewords in the message block. In the instant case, subcombination Group IV has separate utility such as for **a memory portion to store information**; and **a processing portion coupled to the memory portion** and configured to decode codewords in a received block code, wherein **a number of decoding iterations used for decoding is substantially proportional to a code rate for each codeword**. In the instant case, subcombination Group V has separate utility such as for a transceiver operative to send and receive block encoded messages; and **a block encoder coupled to the transceiver** and **configured to encode information to be sent in a block code into one or more codewords having a code rate adjusted to achieve a comparable codeword error probability** for each codeword in the block code considering available decoding time for decoding a last codeword is less than available decoding time for decoding a first codeword. In the instant case, subcombination Group VI has separate utility such as for **encoding means for encoding information to be sent into a block code into one or more codewords and a modulation means for modulating the block code into a multi-carrier signal**. In the instant case, subcombination Group VII has separate utility such as for encoding the information into one or more codewords to be sent in the block code wherein **at least a number of codewords or an amount of information encoded within a codeword is selected to achieve a minimum threshold code rate for each codeword**. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the

allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

A telephone call was made to Stuart A. Whittington, Intel Corp. on 2/16/2008 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph D. Torres
Primary Examiner
Art Unit 2112

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